RAILWAY MATTERS.

On Monday last, travelling on the North-western line to Tusmore House, Oxfordshire (a large Ionic stone mansion of the last century, in the midst of a splendid park, with *Hora e Sempre* inscribed on the entablature, and containing, amongst other pictures, portraits of Mrs. Fitzherbert and Miss Arabella Fermor, the heroine of Pope's "Rape of the Lock"), where excavations have been commenced,—we found the road stopped about a mile from Leighton Buzzard, and were delayed about three hours in the journey. A pilot-engine, employed to conduct the down trains safely over a part of the road where the rails are being relayed, in quitting its charge at the crossing, was knocked over by the engine it had lately aided. On the up line laid the pilot-engine, with its tender down the embankment, and across the down line was embedded the guilty engine knocked up by its own bad doings. Fortunately, and almost miraculously, the personal injuries were very slight. The scene was a curious one: the assemblage of trains, the luggage strewed by the roadside, a large body of labourers with "Jacks" striving to move the obstructing engines, and the passengers in groups looking on. The accident must have been the result of carelessness, but the arrangement is itself a dangerous one.——Two railway stations for Brazil have been constructed of corrugated iron at Birmingham, by Mr. J. H. Porter. Each is 300 feet in length and 70 feet in width, and is divided into two compartments. They are for the Rio de Janeiro Railway.——An accident showing the risk of patching locomotive tubes has just occurred on the Midland line, near Nottingham, by an explosion of the boiler at the junction. Fortunately, in this case, the junction could not have been strong, as the explosion was slight; but it is clear that the stronger such a junction, *short of what it ought to be*, the greater the risk of a *dangerous* explosion.——At the sixth half-yearly general meeting of the Railway Passengers' Assurance Company, held on 1st inst. at the offices, Old Broad-street, Sir John Dean Paul, bart. in the chair, the report of the directors was submitted, which showed a very satisfactory increase of the company's transactions, exceeding even the amount of 1851, when the Great Exhibition induced so unusual an increase of travelling. After paying all expenses and claims there remained an available balance of 1,727*l.* 18s. 11d. which enabled the directors to declare a dividend on the half-year at the rate of 4 per cent. per annum, payable on and after 15th inst. The company, it will be remembered, had assured the late Mr. Grainger in 1,000*l.* by a periodical ticket which he held, and the claim of his representatives, it appears, has been adjusted with the company.

THE IRON TRADE.

A PORTION of the quarterly meeting masters, interested in the return of the puddlers, who struck, to their work, have, with some fear and misgiving as to the general reckoning on quarter-day, agreed to raise the puddlers' wages, and resolved to increase the price of their finished iron 20s. a ton, both rises to take place from 1st October next; and in order to induce the puddlers the more readily to return at once to work, that in the meantime an advance of money be made to them, and their previous wages paid them.

The Glasgow pig iron trade is reported rather inactive, but the following prices are quoted:—"Mixed number warrants, 45s. 6d. cash, sellers; buyers shy, and only offer 45s. For shipment, No. 1 may be quoted at 45s. 3d.; No. 3, 44s. 6d.; No. 1 Gartsherrie, 45s. 9d. Bars are from 6*l.* 10s. to 6*l.* 15s. and plates 9*l.* to 9*l.* 10s. with great activity in the latter."

Last week, whilst quoting an American paper on the subject of machinery, we took occasion to hint to Jonathan that the Britishers had rather not substitute his "lighter" engine boilers for those own mess "cumbersome" ones, unless they wished also to import his grand explosions. But we scarcely anticipated that these very explosions are already charged against ourselves. What have our iron masters to say to the following American complaints of British iron, quoted from the *New York Courier?* The quotation is necessarily much abridged, to adapt it to our pages:—

"We recently stated," says the *Courier*, "that the consumption of iron in the United States amounted to about one million tons per annum, or 100 lbs. to each person. (!) We are informed that four out of five iron establishments in this city use *English plate iron exclusively for steam boilers*, which is obtained at prices much below those demanded for American plate iron. And what are the risks thus entailed upon life and property? Can this plate iron be depended upon? Much English iron is made from impure ores, and sulphureous coal. In some furnaces refuse cinder, which is rich in metal, but highly impregnated with phosphorus, arsenic, sulphur, &c. is employed; and iron so produced is mixed and sold with iron of a better quality without its inferior character being detected. In Philadelphia, within the last two months, while being subjected to tests, a steam-boiler exploded with less than the usual quantity of steam pressed upon its superficies, and in a moment seven persons, who were in the vicinity at the time of the experiment, were hurried into eternity. No visible flaws were found in the ruptured plate, and the iron appeared sound and healthy; *but it was of British manufacture*, and may have been of the refuse cinder quality. Congress has no right, by a policy so pernicious as the Act of 1846, to invite dangers into our midst, causing insecurity to thousands. Late experiments at the Washington Navy-yard demonstrated that English chain cable of a certain thickness of diameter was ruptured by a breaking strain of 716 lbs. less than was required to rupture American chain cable of the same diameter. During the experiments at the Washington Navy-yard the strength of a chain of French manufacture was also tried. It yielded at a breaking strain of 1,060 lbs. while an American chain of the same thickness only yielded to a strain of 1,277 lbs. Similar results followed after over 200 tests. We do not charge that deliberate frauds are perpetrated by the British iron-master; but brands which be sells at 6*l.* 0s. 8d. per ton, are charged to brands that bring in the market 8*l.* per ton, and the domestic importer is the first to unintentionally palm off the imposition. Congress cannot enact a law to prevent these outrages, but it can pass a law imposing heavy duties on iron, and the consequences will be that American iron will come into general use, and the foreign article will be partially excluded by the superiority of the former."

NOTES ON GAS-LIGHTING.

THE chief stone of the new works of the Sheffield Gas Consumers' Company was laid by the mayor on Monday in last week. The company have purchased for their works a piece of land 5½ acres in extent, between Neepsend-lane and the Manchester, Sheffield, and Lincolnshire Railway. For some time past workmen have been engaged converting the clay found in the land into bricks, for the erection of the buildings. The foundations of the retort house, coal store, purifying houses, coke stores, and other portions of the building, are already put in. The buildings have been so laid out that coals can be brought from a siding on the railway, the making of which the Manchester, Sheffield, and Lincolnshire directors have already sanctioned, direct into the works. The excavations for the large tank are also nearly completed. This tank, which is to be 167½ feet in diameter, will, it is said, be the largest in the world, the largest already erected being that at Kennington Oval. The contractors have undertaken to have the buildings completed by 30th November, and the company anticipate being able to supply gas to their customers by February next. A large quantity of mains and pipes are already on the ground.

The first sod of the Guisborough gas-works was turned on Wednesday in last week, and the excavations and other preliminary works were at once commenced.

At a recent meeting of the shareholders of the Maryport Gas Company, a dividend was declared of 6 per cent. out of the net profits, and a considerable sum was likewise carried to the reserve fund to meet the expenses connected with repairs and extension of works at present in operation.

At a late meeting of mechanical engineers in Birmingham, Mr. John E. Clift read a paper on the construction of firebrick gas-retorts, giving the result of several years' experience of their working at the Birmingham and Staffordshire Gasworks, as well as at several other places. These gas-retorts are constructed entirely of firebricks, except the mouthpieces, which are of cast-iron, in the usual form, and the bricks are set in fireclay, and joined in a simple manner, so as to break each joint, and prevent escape. Two small retorts are placed at the bottom, and one large one above, 5 feet wide; and all of them are 20 feet long, being double the usual length, and having a door at both ends. A number of them are said to have been in constant work for eight years, with very slight expense for repairs, and to be still fit for working several years longer; while the first cost is less than that of cast-iron retorts.

WORKS IN IRELAND.

THE Royal Exchange at Dublin has lately undergone various alterations in the interior. A council-room now occupies the position of the old coffee-room, and the fitments will be on a much more "attractive" scale than those in the corresponding apartment of the City Assembly-house, in William-street. As the building is being converted into a town-hall, various offices have been provided throughout for the municipal officers. The amount of expenditure will probably be 3,000*l.* and we understand that the present entrance is to be entirely remodelled, under the direction of Mr. Hugh Byrne, city architect.

The preliminaries as to locksetting site, &c. for the Exhibition Building at Dublin, have been commenced under the directions of the architect, Mr. Benson.

We are glad to find that the Cork National Exhibition Committee have extended the time for closing the exhibition, inasmuch as the influx of visitors at present is so great as to justify that step. On a recent occasion a large number availed themselves of a cheap excursion train advertised by the Great Southern and Western Railway Company, to convey passengers to Cork and back (a distance of 164 miles) for 8s. second class, and 5s. third class. On some days upwards of 3,000 tickets were issued at the exhibition building, independent of the admission of *season ticket-holders*, and the steamers to Blackrock Passage and Queenstown were literally crammed with strangers.

A new Roman Catholic Church is in progress of erection at Sunday's Well, overlooking the Queen's college. The design is Gothic. Mr. Benson is the architect, and Mr. Murray the builder.

At Queenstown additions have been recently built to the chapel. The chapel at Adare, near Limerick, is undergoing alterations; portions of the old buildings have been thrown down, and a new roof is being put on: the new portions are in the Early English style, and we believe the Earl of Dunraven is the principal contributor.

A beet-sugar manufactory is being established in Waterford by a party of Belgians, who have lately arrived in that city. The Royal Irish Beet Sugar Company were solicited to establish a factory there, and Mr. Sproule, the Irish secretary, attended a public meeting on the part of the company; but it is evident the other parties have determined to be first in the field.

The Craigmore viaduct, on the Dublin and Belfast Junction, has been opened. The portions of this line between the Wellington Inn station and the temporary station at Armagh-road, are nearly finished.

The works between Clonmel and Dunkitt, on the Waterford and Limerick line, a distance of 26½ miles, are nearly complete. The Cahir station-house is finished, and the Admiralty

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